TECHNOLOGIST-IN-RESIDENCE PILOT

Laboratory Call for Proposals
Fiscal Year 2015/2016
Office of Strategic Programs
Clean Energy Manufacturing Initiative

Key Dates	
Laboratory Call Issue Date	April 21, 2015
Informational Webinar	1:00PM ET, April 29, 2015
Amended Submission Deadline for Proposals	July 13, 2015
Expected Date for EERE Selection Notifications	August 14, 2015

Summary Information	
Means of Submission	Proposals must be submitted through Exchange. EERE will not review or consider proposals submitted through other means.
Total Amount to be Provided	Up to $2,300,000
Average Amount of Funding per Selected Lab	EERE anticipates providing funding in the following amount: Up to $400,000 per selected Lab.
Period of Performance	18 to 24 Months
Eligible Entity	U.S. Department of Energy National Laboratories are eligible to apply. The proposal must identify the specific Industry Partner that would be a part of the Technologist in Residence pair. See Section D, Pilot Structure.
Cost Share Requirement	Cost share is required. See Section II.E for more information.
Submission of Multiple Proposals	Laboratories are not limited in the number of proposals they may submit through this lab call.
Proposal Forms	The proposal template is contained in this document.
Questions	Direct questions about the pilot rules and proposal process to CleanEnergyManufacturing@EE.doe.gov.

SECTION I: DESCRIPTION AND TOPIC AREAS

A. NOTICE OF MODIFICATION TO LAB CALL

This Lab Call for Proposals has been modified to change the cost-share requirements. The deadline has also been extended to allow labs time to partner with industry and apply under the new cost share requirements.

Under the new cost-share requirements, the Industry Partner is no longer required to provide a cost match for the federal share, but must commit to contribute the funds necessary to cover Lab Technologist's salary and travel costs that exceed the federal share (up to $400K). The Industry Partner is still required to pay all of the salary and travel for the Industry Technologist.

B. SUMMARY

To advance several of the Administration's priorities, including enhancing U.S. manufacturing competitiveness and the commercial impact of the U.S. Department of Energy's (DOE's) National Laboratories, DOE's Office of Energy Efficiency and Renewable Energy is creating a pilot program called Technologist in Residence (TIR). The initiative will facilitate the building of deeper relationships between industry and DOE's national laboratories that result in high-impact collaborative research and development (R&D). If successful, the pilot will result in a transparent and streamlined process for companies to establish such relationships with national laboratories beyond the pilot period.

The TIR pilot will involve the competitive selection of pairs comprised of a senior technical staff member from a National Laboratory (Lab Technologist), and a senior technical staff member from a clean energy manufacturing company or consortium of companies (Industry Technologist). Each technologist may represent single or multiple national laboratories, or single or multiple companies. These pairs of Lab and industry technologists will work together for a period of 18 to 24 months to accomplish several goals:

1) Identify the participating company's (or companies') technical priorities and challenges, and the resources and capabilities in DOE's National Laboratories that may be highly suitable to address them;
2) Propose collaborative R&D efforts to develop science-based solutions to the company's (or companies') most strategic scientific, technological, and business issues; and
3) Develop a general framework agreement and begin developing specific scopes of work for the proposed collaborative R&D efforts. The proposed R&D will then take place outside of the pilot and will not use TIR pilot funds.

Further, EERE will create a Council of Technologists (COT) to help pilot participants navigate the resources throughout the National Laboratory enterprise and to provide individual feedback to DOE that can then be used, along with other forms of input, to design the most effective process for companies and laboratories to establish such relationships more broadly beyond the pilot duration.

B. OBJECTIVES

TIR will serve as a pilot to catalyze strong lab-industry relationships that result in significant high-impact collaborative research and development.

The pilot's primary objectives are to:

- Increase collaborative research and development between National Laboratories and private sector companies; and
- Develop a streamlined method for companies to establish long-term relationships with Laboratories that facilitate collaborative research and development.

In addition, the pilot aims to achieve these secondary benefits:

- Enhance transparency into the DOE National Laboratory innovation infrastructure for the private sector;
- Increase awareness of high-impact industrially relevant technology challenges within the DOE National Laboratory system; and
- Broaden the networks of technologists in DOE National Laboratories and in industry to more effectively support industry needs and leverage the DOE National Laboratory enterprise.

C. BACKGROUND

Since the Clean Energy Manufacturing Initiative's (CEMI's) launch in March 2013, DOE has conducted extensive engagement and analysis to identify and evaluate opportunities to meet the following objectives:

1) Enhance U.S. competitiveness in manufacturing clean energy technologies; and
2) Enhance U.S. competitiveness in manufacturing across the economy by increasing energy productivity.

Through its outreach, CEMI identified significant private sector interest in accessing cutting-edge science and technology capabilities within DOE's National Laboratories to enhance U.S. competitiveness in clean energy manufacturing. CEMI also identified several possible means of better leveraging DOE's National Laboratories through public-private partnerships. Specifically, CEMI found significant interest in and support for catalyzing long-term strategic partnerships between a broad set of companies and National Labs for collaborative R&D that can meaningfully impact participating companies' competitiveness.

In individual cases, long-term trusting relationships between Laboratories and companies have already proven successful. The TIR pilot aims to expand these kinds of relationships across a greater portion of the entire National Lab enterprise and with a wider swath of industry participants.

EERE encourages Labs to conduct outreach activities to seek new partnerships and approaches to working with industry. This pilot is being proposed to increase the number of high-impact

relationships between National Labs and a broader set of industry participants by improving knowledge of and expanding access to the National Lab enterprise.

D. PILOT STRUCTURE

A DOE National Lab and industry partner will form a pairing of their technologists. The DOE National Lab will submit a proposal detailing how the pair plans to work together and their objectives for pairing together. EERE encourages Labs to conduct outreach activities prior to applying, such as open houses or webinars, to facilitate forming technologist pairs. DOE will not match interested companies and National Labs. The solicitation will be open for a period to allow for Labs and companies to formulate pairs and prepare the proposal. It is important that the TIR pilot maximize the potential utilization of DOE technologies and facilities by public and private entities both large and small. As part of the partner identification process, National Laboratories should take all reasonable measures to ensure widespread notice of this partnership opportunity through the TIR pilot program. Proposals will be selected based upon their approach to support DOE's clean energy manufacturing objectives, as well as the partnership's credentials and resources. DOE will look for proposals that demonstrate new relationships between Labs and private sector industry partners, new approaches to working together, or a previously unexplored focus area.

The Technologists in Residence Pilot consists of the following key elements:

Technologists in Residence Priority and Capability Exchange: DOE will competitively select TIR Pilot proposals from pairs of Technologists—a senior representative of a DOE National Laboratory and a senior representative of a manufacturing company. The representatives in the pairs will be designated as an "Industry" or a "Laboratory" Technologist, respectively. The selected pairs of Technologists will work together over the course of the pilot to:

1. Identify the technical priorities of the manufacturing company and the capabilities and resources of DOE National Laboratories most suitable to address them;
2. Develop an agreement between the DOE National Laboratory and the industry partner that includes the specific scopes of work for collaborative R&D to address the identified priorities; and
3. Finalize a plan for continued collaborative R&D beyond the TIR pilot, not using TIR pilot funds. TIR funds shall be utilized for exchange of priorities and capabilities, and development of an agreement and scopes of work.

DOE will provide maximum flexibility to the pairs to determine the best approaches. Technologist pairs will propose the duration of their partnership (18 to 24 months), the degree of dedication of each Technologist (full-time or level of part-time participation), and exactly how and where they will execute their partnership (i.e. extent of time Technologists will spend in residence at each respective institution, etc.).

DOE National Labs are encouraged to conduct outreach activities to facilitate forming pairs; activities can include open houses or webinars. It is important to note that DOE will not match interested companies and National Labs.

As part of the partner identification process, National Laboratories should take all reasonable measures to ensure widespread notice of this partnership opportunity. The TIR pilot should help maximize the potential utilization of DOE technologies and facilities by public and private entities both large and small.

As a core function of the pilot, DOE will convene a Council of Technologists, (COT), made up of technologist pairs and representatives from additional participating DOE National Laboratories. The COT will promote resources throughout the DOE Labs and help industry partners form relationships throughout the entire Lab enterprise, broadening the partnership beyond simply 'one company – one lab'. In addition, DOE will convene the COT twice per year or as needed to obtain individual feedback, which DOE will collect and synthesize to design a streamlined, uniform way for industry to establish relationships with Laboratories beyond the duration of the pilot.

Proposals will be selected based upon how well their approach supports DOE's clean energy manufacturing objectives, as well as the partnership's credentials and resources. DOE will look for proposals that demonstrate new relationships between Labs and a private sector industry partner, new approaches to working together, or previously unexplored focus areas.

E. SCOPE OF ACTIVITIES

To accomplish the pilot goals, funding will be provided to approximately five pairs of technologists. The scope of activities to be carried out as a part of this pilot is described below:

1. *Exchange of Priorities and Capabilities:* After selections have been made and DOE issues awards, the pairs of technologists will carry out several activities to understand the manufacturing companies' technical priorities and the National Laboratories' abilities to solve these challenges with the objective of identifying areas for collaborative R&D. These activities include visiting all relevant participating National Laboratories, and other activities proposed by the pairs.

   Pairs will have tangible metrics and milestones during the partnership requiring them to identify capabilities for research and development across laboratories. DOE will require pairs to meet specific milestones to show progress in exchanging technical priorities and Laboratories' capabilities. DOE will provide the pairs maximum flexibility to propose additional milestones and determine their best approach; i.e., project duration, how much time each technologist will dedicate to TIR, where they will be located, and activities they will conduct to develop scopes of work.

2. *Participation in the Council of Technologists:* DOE will form a Council of Technologists, made up of technologists from the selected pairs as well as representatives from other participating Labs. The COT will promote resources throughout the DOE Labs help the industry partners form relationships, and facilitate exchange through the entire Lab enterprise, broadening the partnership beyond simply one company-one Lab'. The COT will meet twice a year or as needed during the pilot to share with DOE specific feedback about the pilot. This feedback will help DOE design the long-term method for companies to establish similar relationships with Labs.

3. *Formation of Agreements and Definition of Scopes of Work:* During the pilot, a Technologist in Residence pair will aim to form an agreement broad enough to cover general subject areas and initial specific technical scopes of work during the project. Additional specific tasks may be added under the agreement based on mutually agreed proposals over the course of the pilot and beyond. The specific tasks and scopes of work will build on insights gained through the exchange of information about technical priorities and Laboratory capabilities, and will address technical priorities and relevant Laboratory capabilities. The Lab technologist may draft statements of work for their own Laboratories and can facilitate drafting of statements of work with staff from other National Laboratories. Important note: The National Laboratories and the manufacturing company may execute these scopes of work as they are created during the period of the pilot, but they will execute these scopes of work outside of the scope and funding of the TIR pilot itself.

4. *Reporting on Milestones, Tracking of Metrics:* Technologists in Residence will work toward an agreed-upon set of milestones and will report on several metrics that describe their approach toward meeting them. Meeting intermediate milestones will be required for passing go/no-go decision points for continuing each pair's participation in the pilot, and achieving final milestones will indicate success of the individual partnerships. Reported process metrics will help to evaluate different approaches for meeting the target milestones. Reported metrics and milestones will be used to develop a streamlined and uniform approach for companies to establish relationships with Laboratories beyond the duration of the pilot.

   Milestones for technologist pairs include:

   - Development of a framework partnership agreement that can be modified with statements of work as they are identified
   - Creation of Statements of Work to be added to the agreement by the end of the pairs' participation in the Pilot

   Technologist pairs may propose additional intermediary milestones.

   Metrics to be reported by technologist pairs include:

   - Number of National Labs visited to build relationships, explore ideas, and evaluate resources
   - Time spent by the Lab technologist embedded in industry
   - Time spent by the Industry technologist embedded in Laboratories
   - Number of ideas and resources identified at the Lab Technologist's facility
   - Number of ideas and resources identified at additional National Labs
   - Meetings with leadership and staff from either Labs or industry to brief and consult about proposed potential ideas for R&D
   - Number of scopes of work for R&D collaborations

- An assessment of how much a change (from Lab-push to commercial-needs pull) the partnership effected in the proposed R&D collaborations
- Number of scopes of work for proposed collaboration that have moved to contract negotiation or execution

F. EVALUATING THE PILOT

The Technologist in Residence Pilot will be evaluated based on whether the participating pairs succeed at achieving their milestones and ultimately execute the identified collaborative R&D projects. In addition, the pilot will be evaluated on how in-line the proposed R&D is with DOE objectives. Should the pilot approach prove successful, the reported metrics and milestones may be used to design a streamlined uniform approach for DOE National Laboratories to establish a more comprehensive TIR program available more broadly to companies and Labs not participating in the initial TIR pilot program.

SECTION II: FUNDING INFORMATION AND ELIGIBILITY

A. TYPE OF FUNDING INSTRUMENT

EERE anticipates funding the TIR Pilot through fiscal years 2015 and 2016 Annual Operating Plans with the National Laboratories, through the EERE Advanced Manufacturing Office.

B. ESTIMATED FUNDING

EERE anticipates that approximately $2,300,000 in federal funds will be available for this pilot.

Anticipated Number of Selections: 5*
Anticipated Funding Amount per Selection: $400,000*

Federal funds may only be used for costs associated with the salary and travel of the Lab Technologist.

*This may change based upon the duration of each pilot partnership and funding availability.

EERE reserves the right to fund, in whole or in part, any, all, or none of the proposals submitted in response to this Laboratory Call.

C. PERIOD OF PERFORMANCE

The period of performance will be between 18 and 24 months.

D. ELIGIBILITY

Department of Energy National Laboratories are eligible to apply as the primary applicant. The proposal must also include an industry partner that is committed to participating. To be eligible, the lab proposal must identify both the senior representative of the clean energy manufacturing industry partner and the senior representative of the DOE National Laboratory that would participate. For this lab call, "clean energy manufacturing industry partner" is defined as a company involved in the production of clean energy technologies or a company implementing energy productivity measures.

E. COST SHARING

The proposal must detail the private sector partner's commitment to contribute the amount necessary to cover any additional salary and travel costs for the Lab Technologist beyond the Federal share of $400,000.

In addition to this cost share to support for the salary and travel of the Lab Technologist, it is anticipated that the Industry partner will cover 100% of the Industry Technologist's salary and expenses during the TIR pilot. The proposal must specify the amount and source of funding the partner will contribute to the project in the budget template provided. In addition, the proposal shall include a cost share commitment letter signed by the industry partner.

F. SELECTION NOTICES

Selected Applicants Notification: EERE will notify applicants selected for funding under this Lab Call. Notice of selection is not an authorization to begin performance. Selected projects will proceed to the negotiation stage. EERE reserves the right to request additional or clarifying information before proceeding with negotiations for any selection.

Non-selected Notification: Organizations whose proposals have not been selected will be advised as promptly as possible.

SECTION III: PROPOSAL REVIEW INFORMATION

A. CRITERIA

1. Initial Eligibility Review

Proposals submitted after the full proposal deadline of **5:00 p.m. (ET) on July 13, 2015** will be declined without review. Prior to a full merit evaluation, EERE will perform an initial eligibility review to determine that (1) the applicant is an eligible entity under this Lab Call; (2) the information required by the Laboratory Call has been submitted; (3) all mandatory requirements are satisfied; and (4) the proposed project is responsive to the objectives of the Laboratory Call. Proposals that fail to pass the initial eligibility review will not be forwarded for merit review and will be eliminated from further consideration.

2. Merit Review Criteria

Proposals will be reviewed and selections will be made based on the following criteria:

Criterion 1: Innovation, Technical Focus, Project Plan, and Approach (60%)

Innovation:

- Degree to which this proposal demonstrates additionality: a new relationship between Labs and a private sector industry partner, a new approach to working together, or a previously unexplored area of focus.

Technical Focus:

- Degree to which the industry partner's technical challenges and Laboratory's suite of capabilities fit the scope of the pilot;

- The extent to which the pair has sufficiently identified the challenges of a particular technology area that enables exploration of expertise and resources at the National Laboratories;
- Degree to which the pair is well-suited to address the identified challenges; and
- Degree to which the identified private sector technical challenges, if solved, will meet the objectives of the Clean Energy Manufacturing Initiative.

Approach and Work Plan:

- Degree to which the approach detailed in the work plan will achieve the program goals and expectations;
- Degree to which the proposed activities will result in increased collaborative research and development between the proposed industry partner and DOE National Laboratories;
- Degree to which the proposed activities enable relationship building between the Labs and the participating company/companies;
- Degree to which the approach has been clearly described and thoughtfully considered;
- Degree to which work plan and task descriptions are clear, detailed, timely, and reasonable, resulting in a high likelihood that the proposed work plan will succeed in meeting the pilot objectives; and
- Degree to which the application has demonstrated understanding of potential risk areas involved in the proposed work, and mitigation strategies to address them.

Metrics, Milestones, and Budget:

- The strength of the proposed metrics and milestones, such that meaningful interim progress will be made and measured, and inform future efforts; and
- The reasonableness of the budget and spend plan for the proposed project and objectives.

Criterion 2: Team and Resources (40%)

Team Competency:

- The capability of the proposed team and available resources to address all aspects of the work plan with a high chance of success based on the technical credentials of the technologists; qualifications, relevant expertise, and time commitment of the individuals on the team;
- The ability of the Lab technologist to represent the resources of his or her own Laboratory, and to help the pair navigate across the entire National Lab enterprise; and
- Degree to which the Industry Technologist can represent the industry partner's technical challenges and to devise and enact corporate research and development strategies.

Resources and Support:

- How well the supporting resources from the Laboratory and industry partner support the pilot objectives and commitment to the pair's success.

3. Other Selection Considerations

In addition to the scientific and technical merit of the proposals as determined by merit review, the Selection Official may consider (1) the availability of funding and (2) the following program policy factors in determining which proposals to select.

Program Policy Factors:

- Ensuring an appropriate balance of technical and clean energy manufacturing industry focus areas within TIR portfolio
- The degree to which the proposed project, including proposed cost share, optimizes the use of available EERE funding to achieve programmatic objectives;
- Whether the proposed partnership will accelerate transformational technological advances in areas that industry without federal funding is not likely to undertake because of technical and financial uncertainty;
- Alignment of the National Laboratories' capabilities to participating EERE Technology Offices' missions;
- Representation of National Laboratories from multiple DOE sponsoring offices (i.e. Science, NNSA, Nuclear Energy, Environmental Management, EERE).

SECTION IV: PROPOSAL SUBMISSION AND TEMPLATE

Proposals must be submitted through Exchange by **5:00 p.m. (ET) on July 13, 2015**. The PI should receive an email acknowledging receipt of the proposal within 24 hours. Please contact CleanEnergyManufacturing@ee.doe.gov if a receipt is not received. The proposal should include the information requested in Section 1 below, respond to each of the bullet points in Section 2, and be submitted in Portable Document Format (PDF). Proposals may include an appendix of team members' resumes (no other information or materials). Proposals must not exceed 10 pages single spaced, 12 point font with standard margins. The budget document, the proposed Technologists' resumes, and the industry partner's cost share commitment letter can be additional pages beyond the 10 page limit. Additional pages beyond that will not be reviewed

Section 1: Project Administrative Detail

Project Title		
Topic		
Lab		
Principal Investigator	Name:	E-mail:
Proposed Budget ($K)		
Period of Performance	Start:	End:

Section 2: Project Plan

Please describe how this proposal demonstrates additionality: a new relationship between Labs and a private sector industry partner, a new approach to working together, or a previously unexplored area of focus. Please also characterize how your proposed private sector partner has previously worked with the National Lab enterprise:

Please describe the project approach, work plan, and how the project will achieve the TIR pilot goals and expectations:

Please describe the technical scope of the proposed pairing, including the industry partner's technical challenges and Laboratory's suite of capabilities:

Please describe any potential risks or challenges to successfully completing the project plan and mitigation strategies to address these:

Please describe proposed project metrics and milestones:

Section 3: Team and Resources

Please describe the team members and their abilities, unique roles, time commitment, programmatic relationship, and relevant experience/background. Identify technologists (by name). Please explain any additional staffing needs or hiring plans:

Please describe the pair's commitment to the project and any additional resources it plans to commit to support the project objectives:

Other notes. If there is other relevant information the Laboratory would like to convey, please include it below:

Section 4: Proposed Project Timeline and Budget

Deliverable/Milestone	Start Date (MM/YY)	End Date (MM/YY)
Total DOE Funding		
Total Non-DOE Funding		
Total		